

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA2508NM

This certificate, issued to John Watson
1314 Greenwood Drive
Modesto, CA 95350

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations.* *See page 5.

Original Product — Type Certificate Number: 2A13
Make: Piper
Model: PA-28-140, S/N 28-7125155 (N1803T)
Normal Category only

Description of Type Design Change: Installation of Lycoming IO-360-C1D6 engine, Hartzell HC-C2YK-IBF/F7666A-2 constant speed propeller, and other associated components in accordance with John Watson Report No. 1 dated May 23, 1984.

FAA Approved John Watson Airplane Flight Manual Supplement dated September 14, 1984 is required with this installation.

Limitations and Conditions: Data not suitable for reproduction of installation in other aircraft; therefore, they are satisfactory for Piper PA-28-140 S/N 28-7125155 only. No additional modifications of this type are to be approved solely by reference to this Supplemental Type Certificate or to the data submitted therefor. Supplemental Type Certificate Addendum No. SA2508NM is a part of this certificate. A copy of this certificate and John Watson Report No. 1 shall be maintained as a part of the permanent records for this modified aircraft.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: July 1, 1983

Date reissued:

Date of issuance: September 14, 1984

Date amended:



By direction of the Administrator

Marvin J. Rammelshug
(Signature)

for CHARLES I. BLOMER, Manager
Western Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 1 year, or both.

United States of America
Department of Transportation—Federal Aviation Administration
Supplemental Type Certificate
(Continuation Sheet)

(I) Sept 14, 1984

Number SA2508NM

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA2508NM

The conditions and limitations of Type Certificate Data Sheet 2A13 apply except as follows:

This Addendum, which is part of Supplemental Type Certificate No. SA2508NM, prescribes conditions and limitations under which the product for which the STC was issued meets the airworthiness requirements of the Civil Air Regulations. A copy of this Addendum shall be maintained as part of the modified aircraft's permanent records.

Supplemental Type Certificate Holder: John Watson

I - Model PA-28-140 (Normal Category) as modified by STC SA2508NM

Engine	Lycoming IO-360-C1D6
Fuel	100 Minimum Grade Aviation Gasoline
Engine Limits	For all operations: 180 HP, 2700 RPM, 26.4" M.P. @ S.L. 180 HP, 2700 RPM, 25.5" M.P. @ 3100 ft. Straight line variation between points given.
Propeller and Propeller Limits	Hartzell HC-C2YK-IBF/F7666A-2 Hub Model: HC-C2YK-IBF Blade Model: F7666-A-2 Diameter: Maximum 74 in. Minimum 72.5 in. No further reduction permitted. Pitch Settings: @30" Sta. Low 12.2 + .2° High 29.0° ± .2° Governor: Hartzell F-2-7 Spinner: Piper P/N 99374-0
Center of Gravity Range	<u>Normal Category only</u> (+84.0) to (+95.9) at 1650 lb. or less (+85.9) to (+95.9) at 1975 lb. (+88.4) to (+95.9) at 2150 lb. Straight line variation between points given.

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
 Department of Transportation—Federal Aviation Administration
Supplemental Type Certificate
 (Continuation Sheet)

(I) Sept 14, 1984

Number

SA2508NM

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA2508M (cont.)

Maximum Weight 2150 lb.
 No. of Seats 4 (2 at + 85.5, 2 at + 117)
 Oil Capacity 8 qts. at +29.5 (6 qts. usable)

Powerplant Instrument
 Markings

	Minimum	Normal	Caution	Maximum
	Red Radial	Green Arc	Yellow Arc	Red Radial
Tachometer (RPM)	-- --	500-2600	2600-2700	2700
Manifold Press.	-- --	-- --	-- --	26.4
Oil Temp (°F)	-- --	75-245	-- --	245
Oil Press (PSI)	25	60-90	25-60	90
Fuel Press (PSI)	14	14-45	-- --	45
Cylinder Head Temp (°F) (Optional) #3 Cylinder (Well-Type Thermocouple)	-- --	-- --	-- --	500°

Serial Nos. eligible 28-7125155 only

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United States of America
Department of Transportation—Federal Aviation Administration
Supplemental Type Certificate
(Continuation Sheet)

(I) Sept 14, 1984

Number SA2508NM

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA2508NM (cont.)

Certification Basis: CAR 3, effective May 15, 1956 including amendments 3-1, 3-2, 3-4 and para. 3.304 and 3.705 of amendment 3-7; also FAR 23.955(c) effective December 29, 1973 in lieu of CAR 3.435.

Required Equipment: In addition to the equipment applicable and required by Type Certificate Data Sheet No. 2A13, the equipment specified by John Watson Report No. 1 must be installed as a result of incorporating this STC.

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in the aircraft.

NOTE 2. The following information shall be provided to pilot in the form of placards or markings:

- a. At the Alternate induction air control "INDUCTION AIR
ALT ↑
FILTER" ↓
- b. At the wing fuel tank filler caps:
"FUEL - 25 GAL CAPACITY 100 MIN. GRADE AVGAS"
- c. At the propeller control quadrant: INC ↑
"PROPELLER DEC" ↓
- d. At the mixture control:
"PULL LEAN"
- e. In full view of the pilot:
"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY
AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS
STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS."

"NO ACROBATIC MANEUVERS (INCLUDING SPINS) ARE APPROVED
FOR NORMAL CATEGORY OPERATIONS." (Ref.)

Delete all existing placards referring to Utility Category Operations and spins.

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Supplemental Type Certificate
(Continuation Sheet)

(I) September 14, 1984

Number SA2508NM

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA2508NM (cont.)

NOTE 2. Placards (cont.)

- e. MAXIMUM WEIGHT OF PILOT, PASSENGERS, FUEL AND BAGGAGE IS NOT TO EXCEED 664 LBS.

In addition to the placards specified above, the prescribed operating limitations in "Powerplant Instrument Markings" on this STC Addendum must also be displayed by permanent markings.

NOTE 3. Noise Characteristics: For this modification the maximum normal operating power has been limited to 180 HP, and 2600 RPM (and 27.2 in. Hg) which results in no acoustical change, as defined in paragraph 21.93(b) of the Federal Aviation Regulations.

-END-

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